

CLAIMS:

1. A guide laser beam direction setting work system comprising a guide laser beam radiator capable of radiating a guide laser beam in vertical and lateral directions based on the horizontal direction, a first GPS unit for detecting a reference horizontal direction position of the guide laser beam radiator, and a second GPS unit for detecting a position in horizontal direction;

wherein a reference position in horizontal direction of the guide laser beam radiator is detected using the first GPS unit while at the same time detecting a first position in horizontal direction using the second GPS unit located at a first position thereby to specify the direction in which the guide laser beam is to be radiated from the reference position in horizontal direction as an origin; a second position in horizontal direction is detected using the second GPS unit located at a second position in the actual direction of radiation of the guide laser beam thereby to specify the actual direction of radiation of the guide laser beam from the reference position in horizontal direction as an origin, whereby the angle that the direction in which the guide laser beam is to be radiated forms to the actual direction of radiation of the guide laser beam is determined, and the actual radiation direction of the guide laser beam is set in the direction in which the guide laser beam is to be radiated, based on the angle thus determined.

2. A guide laser beam direction setting work system comprising a guide laser beam radiator capable of radiating a guide laser beam in vertical and lateral directions based on the horizontal direction, a first GPS unit for detecting a reference position in the horizontal direction of the guide laser beam radiator, a pole including a second GPS unit for detecting a horizontal position;

wherein a reference position in horizontal direction of the guide laser beam radiator is detected using the first GPS unit while at the same time detecting a first position in horizontal direction using the second GPS unit of the pole located at a first position thereby to specify the direction in which the guide laser beam is to be radiated

from said reference position in horizontal direction as an origin; a second position in horizontal direction is detected using the second GPS until of the pole set to be radiated at a second position in such a manner as to be radiated by the guide laser beam thereby to specify the actual direction of radiation of the guide laser beam from the reference position in horizontal direction as an origin; the angle that the direction in which the guide laser beam is to be radiated forms to the actual direction of radiation of the guide laser beam is determined; and the actual radiation direction of the guide laser beam is set in the direction in which the guide laser beam is to be radiated, based on the angle thus determined.

3. A guide laser beam direction setting work system according to claim 2, wherein the pole for detecting the first position in horizontal direction is the same as the pole for detecting the second position in horizontal direction.

4. A guide laser beam direction setting work system according to claim 2, wherein the GPS units are each connected to a radio communication unit for transmitting the position data in horizontal direction; the guide laser beam radiator includes a receiver for receiving the position data and arithmetic means for calculating, based on the position data, the direction in which the guide laser beam is actually radiated, the direction in which the guide laser beam is to be radiated and the angle that the direction in which the guide laser beam is actually radiated forms to the direction in which the guide laser beam is to be radiated; and the actual radiation direction of the guide laser beam is set in the direction in which the guide laser beam is to be radiated, based on the result of the calculation by the arithmetic means.

5. A guide laser beam direction setting work system according to claim 3, wherein the GPS units are each connected to a radio communication unit for transmitting the position data in horizontal direction; the guide laser beam radiator includes a receiver for receiving the position data and arithmetic means for calculating, based on the position data, the direction in which the guide laser beam is actually radiated, the direction in

which the guide laser beam is to be radiated and the angle that the direction in which the guide laser beam is actually radiated forms to the direction in which the guide laser beam is to be radiated; and the actual radiation direction of the guide laser beam is set in the direction in which the guide laser beam is to be radiated, based on the result of the calculation by the arithmetic means.

6. A guide laser beam direction setting work system comprising: a guide laser beam radiator capable of radiating a guide laser beam in vertical and lateral directions based on the horizontal direction and capable of setting the direction of radiation of the guide laser beam to the center of a target by receiving the light reflected from the target; a first GPS unit for detecting a reference position in horizontal direction of the guide laser beam radiator; and a pole including a second GPS unit for detecting a horizontal position and a pole integrated with the target; wherein a reference position in horizontal direction of the guide laser beam radiator is detected using the first GPS unit while at the same time detecting a first position in horizontal direction using the second GPS unit of the pole located at a first position thereby to specify the direction in which the guide laser beam is to be radiated from the reference position in horizontal direction as an origin, and by setting, using the second GPS unit, the pole at a second position on a line in the direction between and connecting the first position and the reference position in horizontal direction and scanning the guide laser beam in horizontal direction in such a manner as to be radiated by the guide laser beam at the center of the target, the actual radiation direction of the guide laser beam is set in the direction in which the guide laser beam is to be radiated.

7. A guide laser beam direction setting work system according to claim 6, wherein the guide laser beam is operated to scan under the control of an optical remote control unit.